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A Stubborn Box Turtle . . . . . Sean M. Hartzell 129

Notes on Reproduction of Red-spotted toads, *Anaxyrus punctatus* (Anura: Bufonidae), from Riverside County, California . . . . . Stephen R. Goldberg 130

Notes on the Distribution of *Cemophora coccinea* in Maryland . . . . . Robert W. Miller 132

A Hot Time with the Tortoise Nerds . . . . . Roger A. Repp 139

Minutes of the CHS Board Meeting, June 17, 2016 142

What You Missed at the July Meeting . . . . . John Archer 143

Herpetology 2016 145

Advertisements 147

News and Announcements: Midwest Herpetological Conference 148

Cover: False habu, *Macropisthodon rudis*. Drawing from *A Monograph of the Snakes of Japan* by Moichiro Maki, 1931.

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A Stubborn Box Turtle

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I'm fortunate enough that when I begin walking along the railroad tracks near my home in eastern Pennsylvania, after about half a mile or so I encounter a large pond that locals call "The Bog." There is some degree of accuracy in this terminology, as well over a century ago this area was once a peat bog that was mined out and eventually became a pond. Beyond "The Bog," the scenery turns into a wooded, swampy, wetland area and then into a small forest. These areas are full of interesting plants, birds, mammals, insects, and of course a variety of amphibians and reptiles.

I often see turtles in this area. During the nesting season for most turtles in Pennsylvania, I often see a variety of turtles hanging around the railroad tracks and nesting in the lose substrate along the railroad bed. However, while providing a place for the turtles to nest, railroad tracks can pose a danger to turtles and these tracks are no exception. While going about their business, turtles can get trapped between the rails and die from dehydration, overheating, or other causes (see Kornilev et al., 2006). During my walks, I'll occasionally encounter and liberate a trapped turtle or find one that became trapped and didn't make it.

Last year (July 2015) I was walking along these railroad tracks when I encountered a little female box turtle trapped between the rails (Figure 1). I took a few pictures, placed her on the side of the tracks that it appeared she was trying to get to, and wished her good luck. Throughout the rest of the summer and the following spring, I didn't see any box turtles in the vicinity of the railroad tracks. Then, on 1 June 2016, in about the same spot as the previous year, I found a little female box turtle trapped again. I took some pictures, moved her to the side it appeared she wanted to go, wished her good luck, and then we both went along our way. The next morning, I again found a little female box turtle trapped in about the same spot. I did my routine again: took pictures, moved her where it seemed like she wanted to go, wished her good luck, and went along my way. But I wondered: "Could this be the same turtle as yesterday?"

Box turtles have color patterns on their shells that are unique to the individual (Dodd, 2002), so when I went home, I compared the pictures from that morning and the previous day. The pictures from that morning and the previous day matched up perfectly. I also noticed that this box turtle had a pattern of some damage/wear on her second vertebral scute (Figure 2). The pictures from both days again matched up perfectly. So I had encountered and liberated the same individual two days in a row. Then I had another thought: "Could this be the same turtle from last year?" I compared pictures and they matched up perfectly. So it seemed that I had encountered the same individual, trapped in about the same spot, three times now.

The next morning, I went out again for the sole purpose of seeing if the individual would again be trapped between the rails. Sure enough, in about the same spot, I found her trapped again, this time trying to climb the rail opposite of the one she had appeared to be going towards on previous days. I moved her over the rail towards where she appeared to want to go. That evening, I went out again and finally did not find her trapped between the rails. A quick search in the area revealed that she was "perched" on a small grassy hummock about 10 feet from the railroad tracks, soaking up the sun. The next morning, I went for my walk and saw no sign of her.

Possibly, this turtle crosses the railroad tracks one or more times a year for some reason. Finding her trapped between rails two years in a row would support this assumption. Maybe she has crossed the railroad tracks many times and didn't really need my help? There are areas further up and down the tracks that appear to be places where a turtle might have an easier time climbing over the rails due to piles of gravel, and some holes underneath the rails in some places in which a small turtle might pass through.

Alternatively, maybe she did need a hand? It is interesting to note that I found her entrapped three days in a row. Perhaps she

Figure 1. Female Eastern Box Turtle trapped between the tracks on a railroad bed, July 2015.

Figure 2. Pattern of wear/damage in the second vertebral scute which aided in identifying the box turtle.

needed to cross the tracks for a brief period of time (possibly to nest?) and then headed back. Or maybe my experience with her was a bit of both. Maybe I was helpful in helping her cross, but misinterpreted which side she was heading toward and (with the best intentions) extended her journey by a few days. Whatever the reason, finding the same, stubborn turtle trapped four times in about the same location proved to be an interesting experience.

Acknowledgments

I thank Mike Dloogatch for a suggestion on this manuscript.

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Notes on Reproduction of Red-spotted toads, *Anaxyrus punctatus* (Anura: Bufonidae), from Riverside County, California

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Abstract

A histological examination was conducted on gonadal material from 46 *Anaxyrus punctatus* from Riverside County, California. The smallest mature male (sperm in lumina of seminiferous tubules) measured 38 mm SVL and was from May. The smallest mature female (mature oocytes) measured 48 mm SVL and was from July. Varying amounts of follicular atresia (spontaneous degeneration of oocytes) was noted in all ovaries. The fecundity of *A. punctatus* decreased due to loss of oocytes to atresia. In Riverside County, California, *A. punctatus* is in breeding condition in spring and remains in reproductive condition into mid-summer.

Anaxyrus punctatus (Baird and Girard, 1852) ranges from southern Nevada and southwestern Kansas, south to Hidalgo and Baja California Sur, Mexico, and central Texas to southeastern California (Stebbins, 2003). Breeding occurs from April (Death Valley) to September (Stebbins and McGinnis, 2012); March to September (Stebbins, 2003; Lemm, 2006). In this paper I present data from a histological examination of *A. punctatus* gonadal material from Riverside County, California in which I describe events in the reproductive cycle. Utilization of museum collections for obtaining reproductive data avoids removing additional animals from the wild.

A sample of 46 A. punctatus from Riverside County, California consisting of 26 adult males (mean snout-vent length, SVL = 47.8 mm ± 4.2 SD, range = 38–54 mm), 19 females (mean SVL = 53.5 mm ± 4.5 SD, range = 48–64 mm) and one subadult female (SVL = 35 mm) was examined from the herpetology collection of the Natural History Museum of Los Angeles County (LACM), Los Angeles, California, USA. An unpaired *t*-test was used to test for differences between adult male and female SVLs (Instat, vers. 3.0b, Graphpad Software, San Diego, CA). *Anaxyrus punctatus* were collected 1954 to 1972 and are listed in the appendix.

A small incision was made in the lower part of the abdomen and the left testis was removed from males and a piece of ovary from females. Gonads were embedded in paraffin, sections were cut at 5 μm and stained with Harris hematoxylin followed by eosin counterstain (Presnell and Schreibman, 1997). Histology slides are deposited in LACM.

The testicular morphology of *A. punctatus* is typical of other anurans as described in Ogielska and Bartmanska (2009a). Spermiogenesis occurs in vesicles within the seminiferous tubules called cysts which remain closed until the late spermatid stage is reached; cysts then open and differentiating sperm reach the lumina of the seminiferous tubules (Ogielska and Bartmanska, 2009a).

The spermatogenic cycle was divided into two stages (Table 1): (1) "Maximum sperm production," maximum quantity of sperm present as cysts, additional cysts in other stages of spermatogenesis also present; (2) "Reduced sperm production," diffuse clusters of sperm in lumen, few cysts on inner tubule periphery. *Anaxyrus punctatus* males can breed in both stages 1 and 2. The smallest mature male (sperm in lumina of seminiferous tubules, spermatogenic cysts also present) measured 38 mm SVL (LACM

Table 1. Monthly stages in the testicular cycle of 26 adult *Anaxyrus punctatus* males from Riverside County, California.

Month	N	Full spermatogenesis	Reduced spermatogenesis
April	1	1	0
May	11	8	3
July	3	2	1
August	10	4	6
October	1	1	0

Table 2. Monthly stages in the spawning cycle of 19 adult *Anaxyrus punctatus* females from Riverside County, California.

Month	N	Ready to spawn	Not in spawning condition, severe atresia
March	2	2	0
April	1	1	0
May	7	7	0
June	1	1	0
July	6	6	0
August	1	0	1
November	1	1	0

88112) and was collected in May. The spermatogenic cycle appeared to slow late in the reproductive season, as 60% (6/10) of August males exhibited reduced spermatogenesis (Table 1).

The mean SVL of adult female *A. punctatus* was significantly larger than that of males ($t = 4.4$, $df = 43$, $P < 0.0001$). The ovaries of *A. punctatus* are typical of other anurans and are paired organs lying on the ventral sides of the kidneys; in adults they are filled with diplotene oocytes in various stages of development (Ogielska and Bartmanska, 2009b). Mature oocytes predominate in the "Ready to spawn category"; (2) in the "Not in spawning condition"category, early diplotene oocytes predominate (Table 2). The smallest mature female (mature oocytes) measured 48 mm SVL (LACM 88105) and was collected in July. The ovary of one subadult (SVL = 35 mm) contained early diplotene oocytes (LACM 88117).

Atresia is a widespread process seen in the ovaries of all vertebrates (Uribe, 2009) and is described as the spontaneous digestion of a diplotene oocyte by its own hypertrophied and phagocytic follicle cells which invade the follicle cavity, and eventually degenerate after accumulating dark pigment (Ogielska and Bartmanska, 2009b). Varying amounts of follicular atresia were noted in all *A. punctatus* ovaries. There was a tendency for follicular atresia to occur mainly in smaller diplotene oocytes. Removal of these oocytes from the pool of oocytes that would have subsequently matured and spawned, lowers the reproductive potential of the female *A. punctatus* population. Atretic follicles predominated in the ovary of one *A. punctatus* from August (late in the spawning season) which had lost the capability of spawning (LACM 88150). Incidences of follicular atresia are known to increase late in the reproductive season of lizards (Goldberg, 1973). The causes of follicular atresia in non-mammalian vertebrates are not fully understood although they are associated with captivity, food availability, crowding and irradiation (Saidapur, 1978). Based on my qualitative observations, it is clear that the fecundity of *A. punctatus* decreased due to loss of oocytes to atresia. In order to ascertain the amount of "lost" spawning in *A. punctatus* females will require a quantitative examination of ovary serial sections. My observations of abundant follicular atresia in a natural population of *A. punctatus* and the indication that it lowers fecundity is sufficient reason to pursue histological examinations of the spawning cycles of other anurans.

Acknowledgment

I thank G. Pauly (LACM) for permission to examine *Anaxyrus punctatus*.

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Appendix

Anaxyrus punctatus from Riverside County, California, borrowed from the herpetology collection of the Natural History Museum of Los Angeles County, California (LACM). LACM 88100, 88102-88106, 88112, 88116, 88117, 88121-88123, 88129, 88134, 88142, 88149, 88150, 88152-88154, 88156, 88157, 88160, 88178, 88179, 88181, 88184, 88186, 88193, 88200, 88201, 88231-88233, 88237, 88238, 91806, 91809-91811, 91820, 91908, 105684, 115261, 122015, 122016.

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Notes on the Distribution of *Cemophora coccinea* in Maryland

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Correcting the herpetological work of H. S. Harris, Jr., has become a routine and necessary activity for those interested in accuracy (e.g., Campbell and Armstrong, 1978; McCranie and Wilson, 1979; Barker, 1992; McCranie, 1993; Miller, 2013, 2015a, 2015b). These time-consuming exertions could have been avoided if Harris had recognized what is obvious to nearly everyone else—you do not publish in your own privately controlled journal, especially when the results are so dismal. His rigorous use of Received and Accepted dates—"by Harris, the author, to Harris, the editor" in McCranie and Wilson's memorable phrase—for his own notes and articles will strike sensible people as strange, if not bizarre. In yet another poor effort, this time on the scarlet snake, *Cemophora coccinea*, Harris (2013) commits numerous errors in fact and judgment, which I record below. I also present here an updated distributional map (Figure 1). Museum abbreviations are as follows: AMNH (American Museum of Natural History), ANSP (Academy of Natural Sciences of Drexel University), CM (Carnegie Museum of Natural History), MCZ (Museum of Comparative Zoology, Harvard University), NHSM (Natural History Society of Maryland), TSU (Towson University), USBS (United States Biological Survey; now in USNM), USNM (National Museum of Natural History).

The problems with Harris (2013) start with the overlong and redundant title. Would not "a review of the known records" be obvious and obligatory in an article devoted to the distribution of a species? He states at the outset: "It has taken almost 151 years, [*sic*] for the distribution of the Northern Scarlet Snake, *Cemophora coccinea copei* (Jan, 1863) in Maryland, [*sic*] to be understood." It is difficult to understand how Harris can believe that he has now, at long last, brought clarity to this species' distribution in the state. He has, in fact, done just the opposite. And with only one site known in Delaware (CM 108993; Arndt, 1985), why does Harris include this state in his note's title? He brings nothing new to an understanding of this species' distribution in Delaware. Conversely, why does he omit the District of Columbia from his title, since he mentions and plots the sole record from this area (USNM 35308; Stejneger, 1905)? Although *Cemophora*'s range in southern Maryland is reasonably well defined (and has been for decades) for a small secretive species near the northern terminus of its range, its distribution on the Delmarva Peninsula is poorly understood at best. Harris (1975, 2013) maps two localities for the Delmarva in Talbot County. In 1975 he states: "Two apparently valid sight records exist for St. Michaels and Tilghman Island; Specimens [*sic*] were collected by kids (Cochrane, 1975)." Checking Harris's (1975) "Literature Cited" (actually a slovenly bibliography almost none of which is cited), one finds a personal communication from a James Cochrane, 30 August 1975, someone whose herpetological credentials have never been established. However, in Harris (2013) Cochrane has somehow become Doris M. Cochran (1898–1968), former curator of amphibians and reptiles at the National Museum of Natural History. Tilghman Island is 46 miles NW Salisbury, Wicomico County (the nearest verified locality, AMNH 77104), and St. Michaels is ca. 44.5 miles NW Salisbury; much of the distance from the former site is over open water. Harris considers these localities tentative, but it is highly questionable whether they should have been mentioned or plotted at all. Harris (2013) also claims that the Talbot County sites are included in Harris (1969), which, of course, they are not since this would have been impossible. At the end of his Eastern Shore comments for Maryland and with no explanation, Harris (2013) alludes to "two Dorchester County reports . . . " *Cemophora* has heretofore never been recorded from this county and it is not until five paragraphs later in his concluding remarks that Harris (2013) specifies these "potential" sites for this county. These reports, which do not even qualify as hearsay, are not the sort of thing that merit publication, but if they must be included they should have been explained under his other Eastern Shore comments.

Although Harris (2013) cites White and White (2002), he is unaware of White and White (2007). In the latter publication, after listing the four documented records for the Delmarva Peninsula, the Whites refer to two more records for Worcester County "which were found between 2003 and 2006 (S. Smith personal communication)." For no discernible reason they do not specify these sites. S. A. Smith (personal communication, 2015) states that they are the two specimens reported by Grogan and Close (2008) from Millville Road, 2.5 km "SW" (S) MD Route 12, 12 June 2004 and 26 July 2005.

Grogan and Close (2008) make several errors in their comments on the scarlet snake's distribution on the Eastern Shore, apparently relying on vague memories instead of consulting the literature they cite. These errors escape Harris's (2013) notice as well. Concerning the first report on the Delmarva Peninsula, about which there was once considerable confusion (Conant, 1958a), Grogan and Close state: "The two earlier Delmarva records were a specimen found ca. 1940 near Salisbury, Wicomico County, adjacent to the NW of Worcester County, commented on by Conant (1958. Copeia 1958:50-52) as there were some inaccuracies about its provenance, etc., in the original report by Fowler (1945. Proc. Biol. Soc. Washington 58: 89–90)." First, Fowler was not the first to report *Cemophora* from the Eastern Shore; it was Conant himself (1945), who inexplicably states that "Fowler . . . was the first to point out the true source of the Salisbury [Wicomico County] record." Conant (1945) published the Salisbury record four months prior to Fowler, and both Conant and Fowler clearly record the existence of the specimen in the University of Maryland collection (formerly UM 1; now AMNH 77104—oddly not mentioned by Grogan and Close). Second, the date of collection of AMNH 77104 is clearly stated by Conant as April 1923 and by Fowler as 5 April 1923, not "ca. 1940." Third, there are inaccuracies in Fowler (1945), but they have nothing to do with the Eastern

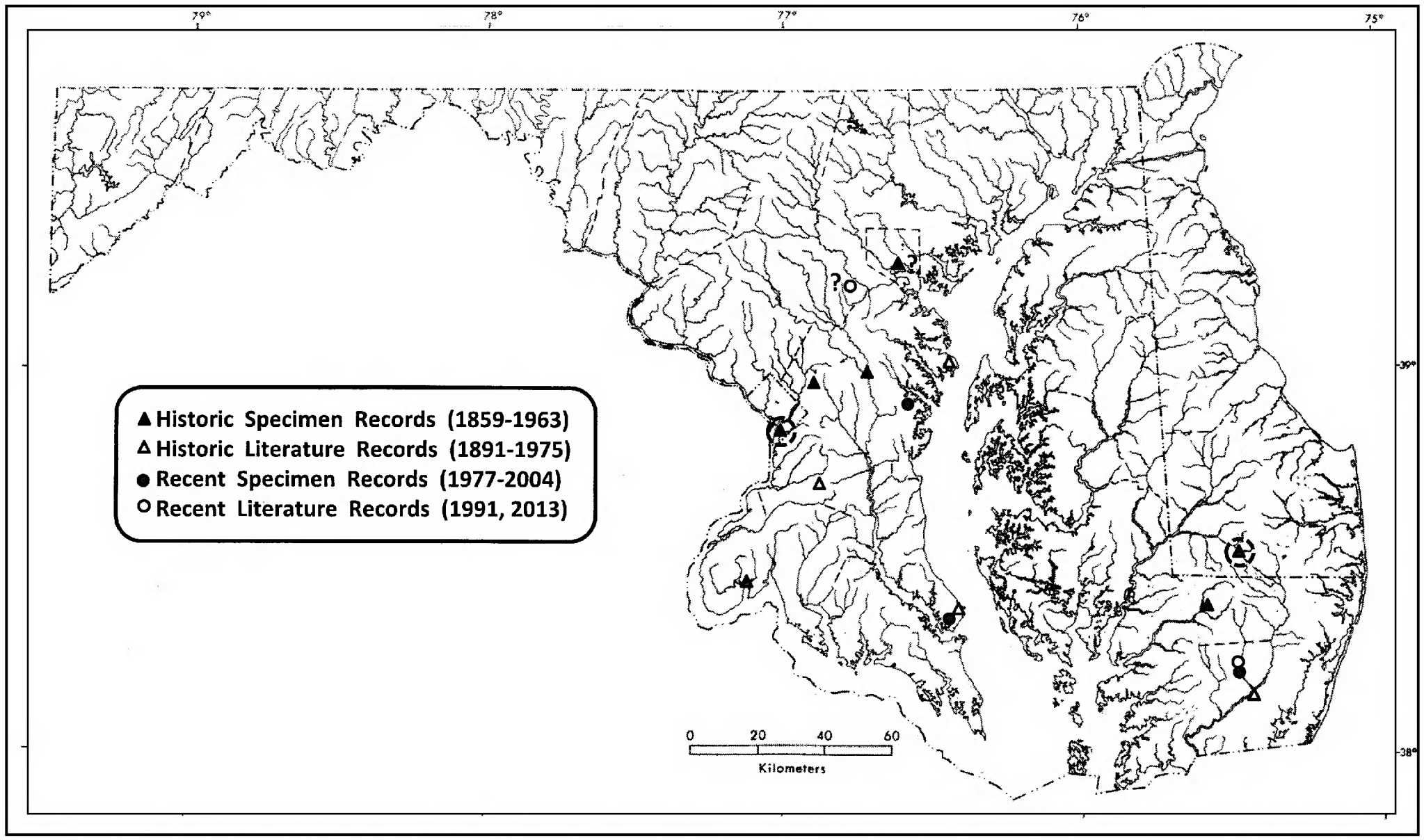

Figure 1. Map of Maryland, Delaware and the District of Columbia, showing locality records for the scarlet snake, *Cemophora coccinea*. Records for Delaware and the District of Columbia are indicated by broken circles.

Shore specimen. They are mentioned below and limited to specimens from Anne Arundel County and Baltimore City.

Concerning the Delaware specimen, Grogan and Close state: "The only other prior museum record [CM 108993; again not mentioned by Grogan and Close] was found in 1963 [21 June] at Trap Pond, W of Laurel, Sussex County, Delaware. This specimen is still the only record from that state that was finally documented by Arndt (1985. Bull. Maryland Herpetol. Soc. 21:67-73) as it was the basis for the distribution maps of this species in Delaware in Conant's second [1975] edition . . . and later editions." First, Trap Pond is 5.5 miles ESE Laurel, not "W of Laurel." Grogan and Close also fail to note that Conant (1958b) had earlier mapped the species in the southern portion of Delaware, although this appears to have been merely an inference, just as his mappings of Virginia's Eastern Shore in later editions are also inferences (Mitchell, 1994; Mitchell and Reay, 1999). Conant's 1958 and 1975 maps are identical for the Delmarva Peninsula. In Conant and Collins (1991), Delaware is not mapped at all (contrary to Mitchell, 1994) and its range on the Eastern Shore of Maryland is reduced from the first two editions. In Conant and Collins (1998), Delaware is once again included and their map is identical to the first two editions. Delaware is not mentioned in the text of the first three editions, but is in this version ("Third edition, expanded"). As for two of the more recent range maps of the species (Ernst and Ernst, 2003; Powell et al., 2016), the former is carelessly drafted and greatly overmaps *Cemophora*'s occurrence west of the Chesapeake Bay and on the Delmarva Peninsula. The latter understates the range in southern Maryland and both understates and overstates the known distribution on the Delmarva Peninsula. Virginia's Eastern Shore is once again excluded.

Most of the substantial errors in Harris (2013) concern *Cemophora*'s distribution in southern Maryland. This is to be expected since a majority of the reports are from there. Some inconsistencies exist in the earliest literature (Cope, 1900; Stejneger, 1905) dealing with this species in Maryland, and Fowler's (1945) and Harris's (2013) handling of them. Contrary to Stejneger (1905), it is Cope (1900), who first reports the species from St. Margarets, Anne Arundel County, at the time believed by Stejneger to be the first record from the state. As recorded by Cope, but no other author, this specimen was originally assigned the catalogue number USNM 16951; oddly he does not provide a date of collection. The date is recorded in the ledger as 2 May 1891, although it is unknown whether this is the date of collection or the date it was received by the museum (S. W. Gotte, personal communication, 2015). As noted by Stejneger the snake escaped before it was catalogued, although Fowler gives the false impression that Cope states this. Like everyone before him, Harris (2013) erroneously states that the specimen from "Baltimore" (MCZ 750), first bought to light by Fowler (1945), was collected in "1862" by "A. Wyatt." Actually it was collected in 1859 (Fowler reports the year it was catalogued) and the collector is Alpheus Hyatt. Miller (2015b) deals elsewhere with this and other matters concerning MCZ 750, which I view as problematic. Harris also states that Stejneger records that the St. Margarets "specimen" was sent to the National Museum "early in 1891," when he clearly writes "Early in May, 1891 . . . "

Harris (2013) awkwardly notes the summary provided by Fowler (1945), but overlooks the stimulus for Fowler's article—

his report of the species from Lanham, Prince George's County, 13 September 1944. Because Harris did not read Fowler's note, he writes: "This must have been a personal communication [from Fowler to McCauley] received late as he [McCauley] mentions the specimen locality is not on his map." Fowler (1945) does not state what happened to the specimen, but it entered his collection as JAF 1014 and 50 years later was catalogued as CM 140179. Harris (2013) also erroneously credits Fowler, rather than McCauley, for the report from Brandywine, Prince George's County. In addition, Harris comments: "He [McCauley, 1945] also states in the case of the St. Denis [Baltimore County] record that *Cemophora* is restricted to the Coastal Plain." This statement is incomprehensible. McCauley states the following: "The Baltimore County record 'near St. Denis' and the Anne Arundel County record 'Severn' of Kelly, Davis, and Robertson (1936, 68) is [*sic*] not included in this list because of the possibility that these specimens may have been incorrectly identified. As both of these localities are within the range of *Lampropeltis triangulum temporalis* with which the scarlet snake could be confused, and as neither has, to my knowledge, been seen by a qualified herpetologist these reports cannot be accepted." The sound judgment on this matter of McCauley and those who have followed him has been tossed aside by Harris for dubious reasons, as discussed below.

Cooper (1950) reports three new sites, one of which is "Mill Creek, near Arnold," Anne Arundel County. However, the specimen supporting this locality (USNM 141395, 8 June 1947) bears only the data Mill Creek, Anne Arundel County. In an attempt to better fix the locality, Cooper added "near Arnold," unaware that there are three Mill Creeks in the county. Two of these are near Arnold, one draining to the Magothy River and the other directly to the Chesapeake Bay. Although both of these streams have their headwaters at Arnold, their mouths are 6.0 miles apart; thus the site may be too vague to plot depending on the scale of the map, and it is not mapped herein. St. Margarets (mentioned above) is proximate to the Mill Creek that drains to the Chesapeake. As such, the separate plottings for Mill Creek and St. Margarets by Cooper (1950) and others (Harris, 1969, 1975, 2013; Committee . . . , 1973) are not justified, although USNM 141395 is justifiably mapped by Williams and Wilson (1967). Furthermore, Harris (1969, 1975, 2013) and Committee . . . (1973) misplot the "near Arnold" specimen and place it at Severna Park, which is 3.5 miles NW Arnold. The third Mill Creek lies between Hill's Bridge (JCT MD Route 4 and Patuxent River) and Wayson's Corner. Due to its obscurity, short length and swampy nature, it is highly unlikely that this was the collection site. In a passage that defies explication, Harris (2013) attributes the following sentence fragment to Cooper (1950) concerning the Mill Creek specimen: "More specific, 'smaller Mill Creek, tributary of Patuxent River at Hills Bridge'." First, Cooper (1950) makes no such statement, nor has anyone else. Second, this site is 18.7 miles SW Arnold and has no relevance whatsoever to the specimen (USNM 141395) that Harris states is from near Arnold. Only through an absence of peer review could such a bizarre utterance get published. Littleford (1955), unaware of Cooper's (1950) article, reports the Mill Creek site as new. He too was unaware of the problem with this locality. However, Littleford's note did serve a useful purpose in pointing out the confusion surrounding the sole record for the Eastern Shore that Conant (1958a) rectifies.

Harris (2013) correctly notes that a *Cemophora coccinea* (USNM 138858, -- July 1956) reported by Reed (1956a) from "Scientists Cliffs, Chesapeake Beach," Calvert County, was later reidentified as *Lampropeltis triangulum*, but is unaware that two localities, 12 miles apart, are represented; thus another important locality for the latter species is ruined by contradictory locality data (Miller, 2015b). Harris also states: "Examination of the USNM catalogue, [*sic*] shows this record as modified January 2003 [*sic*; he apparently means 2013] and the specimen as *Lampropeltis triangulum* (*ssp*. [*sic*] *temporalis* per HSH)." First, Harris was looking at the online version of the USNM catalogue, not the actual catalogue. The specimen was not reidentified in 2003 or 2013; it occurred sometime prior to 1974 (S. W. Gotte, personal communication, 2015). Further, the National Museum's online catalogue did not exist in 2003; it was activated ca. May 2007 (K. A. Tighe, personal communication, 2016).

Harris (2013) states that he (1969, 1975) "mentions a specimen that was donated to the Chesapeake Biological laboratory and given to him for the Natural History Society of Maryland collection by J. D. Hardy, Jr." He correctly notes that it is from Olivet, Calvert County, was collected on 14 September 1977, and reported by Miller (1980). Of course, none of this is stated in Harris (1969, 1975) since it would have been impossible. Harris also fails to note that the specimen in question is NHSM 2361, just as he fails to note that the specimen (discarded) from Cove Point, Calvert County is NHSM 586 and the specimen from Sussex County, Delaware is CM 108993. However, he records catalogue numbers for all other specimens he reports.

Harris (2013) claims to report the first record for *Cemophora* in Charles County (USNM 307452; formerly USBS 10434), when in fact it had been reported 29 years earlier by Miller (1984), in Harris's privately controlled journal. Since Harris is ignorant of this article, he also overlooks two additional localities I report: Woodland Beach, Anne Arundel County, 12 June 1980 (TSU 5293) and Appeal, Calvert County, 9 September 1982 (NHSM 2717).

The apparent stimulus for Harris (2013) is the first report of *Cemophora* from the piedmont of Maryland, a "specimen" from "Rockburn Park" (Rockburn Branch Park), Howard County, 28 May 2013, found by K. Crocetti. Two photographs of the snake are provided as documentation, along with "A general photograph of the habitat . . . " Harris expresses a familiarity with the collection site, but does not state that he visited it. As such, one wonders the basis for the following claims. Attempting to characterize the habitat as suitable for *Cemophora*, Harris writes: "The pine found here is the Pitch Pine, *Pinus rigida*, and is known for its preference of [*sic*] sterile soils." Harris has no credentials as a botanist, so the basis for his assertion is perplexing. He also states: "This area is in the Piedmont at 67 meters." With online estimates of Rockburn Branch Park varying from 415 acres (http://www.howardcountymd.gov/rockburnbranchpark.htm) to 450 acres (https://www.trails.com/tcatalog_trail.aspx?trailid=XMR012-059), it is not clear how Harris can simply assign one elevation to it. Also, since the park has highly irregular boundaries, it would have been useful for Harris to provide a more specific

point of discovery. If he means that the collection site is at 67 meters, he should have said so. Harris also writes: "The St. Denis area, also in the Piedmont, but up a 'river valley' [he means the Patapsco River—why not state it?] is about 2 mi [actually ca. 2.75 miles, and why does Harris switch from the metric system to the English system?] ESE [E is probably more accurate] of the Rockburn record. These records [near St. Denis, Baltimore County and Rockburn Branch Park, Howard County] firmly establish that this snake inhabits the Piedmont in Maryland, and removes any concern of exactly where in Baltimore the 'Baltimore' specimen [MCZ 750] was collected." First, Kelly et al. (1936) state that the *Cemophora* from Baltimore County, the only such report, is from *near* [emphasis added] St. Denis. Harris claims that St. Denis lies in the piedmont, which is incorrect. It lies on the coastal plain or, at most, in a transitional area between the piedmont and the coastal plain. Furthermore, the qualifier by Kelly et al. leaves the matter obscured, so Harris's argument that the St. Denis report buttresses the Howard County record is fallacious. Second and of much greater importance, Harris's acceptance of the St. Denis site demonstrates an appalling lack of concern for evidence and a 68-year rejection specifically of this locality (McCauley, 1945; Cooper, 1950, 1966; Littleford, 1955; Committee …, 1973) and of Kelly et al. generally (McCauley, 1945; Conant, 1946; Cooper, 1953, 1966; Hardy and Mansueti, 1962). Miller (2015b) also criticizes Kelly et al. Even Harris (1975) himself once recognized that Kelly et al. is not trustworthy. Prior to the passage quoted above, Harris states that the near Severn, Anne Arundel County, report, also published by Kelly et al., "is well within the range of *Cemophora coccinea copei* . . . " Although this site is on the coastal plain, and has only that to commend it, it lies on the periphery of this physiographic province and can hardly be said to be "well with the range" of this species. Furthermore, this locality has also been correctly rejected by everyone other than Fowler (1945) and Reed (1956a). Second, for those with a serious interest in the distribution of Maryland's herpetofauna, precisely where MCZ 750 was collected will remain an enduring if futile concern. Although Harris notes Cooper's (1950) concern about the provenance of MCZ 750, Harris still unquestioningly assumes that this specimen was collected in Baltimore, but is unaware of the history surrounding it. Miller (2015b) has noted the strong possibility that the specimen may not have been collected in Baltimore and could well be from Anne Arundel County. This is largely based on an *Aspidoscelis sexlineata* (MCZ 984; received – July 1859) also collected by Alpheus Hyatt from "Baltimore." This remains the northernmost record for this species on the Atlantic coastal plain. It is highly unlikely that Hyatt collected both the northernmost specimens of *Cemophora* (for Maryland) and *Aspidoscelis* (for the Atlantic coastal plain) in Baltimore. Harris (2013) claims: "In 1862, the city of Baltimore was basically the area we now call the Inner Harbor, which is the southern portion of what we call Baltimore today." Although Harris provides no evidence for this statement, it is true that mid-19th century Baltimore was smaller than it is currently, but Harris overstates the situation considerably, as John F. Weishampel, Jr.'s "Map of Baltimore," published in 1859, demonstrates. More important, Harris does not state why he raises this point or why it matters. Nor does he seem to understand that "basically Inner Harbor" equates to "basically coastal plain," which at least would be consistent with the uncontroversial distribution of *Cemophora* in Maryland. Only two other specimens, both also allegedly from Baltimore, are known to have been collected by Hyatt—a *Lampropeltis getula* (MCZ 806, -- -- 1859—discarded) and an *Opheodrys aestivus* (MCZ 758, -- -- 1860—discarded). These species are also overwhelmingly confined to the coastal plain in Maryland, further suggesting that Baltimore may not be where they were taken. Although possible, it is also unlikely that the northernmost record for *Cemophora* in Maryland with specific data would be in the piedmont.

Since Harris now accepts the Severn and St. Denis reports of Kelly et al. as valid, this will require him to accept other hearsay records by these authors, and set in motion a process that will be irresponsible. For example, Kelly et al. also record *Elaphe guttata* (= *Pantherophis guttatus*) from "Near St. Denis, Baltimore Co., August 20, 1930." They also state: "A forty-inch specimen was found at Avalon, Baltimore County, in August, 1932." Avalon is about 1.0 mile NW St. Denis, and both areas, especially the former, are in the most thoroughly collected area in Maryland, Patapsco State Park. Furthermore, there is no evidence that this species occurs in or adjacent to the park, even though its uncontested distribution in Maryland closely resembles that of *Cemophora*. In addition, if *Cemophora* can be confused with local *Lampropeltis triangulum*, as everyone agrees, so can *P. guttatus*. Elsewhere in their account of the corn snake, Kelly et al. list the following additional localities: Harford County (no further data, 3 May 1934), Howard County (no further data, 1 September 1935) and county not stated (Baltimore County): "near the Gunpowder River [Gunpowder Falls] on the Harford Road [MD Route 147]," 1 August 1934. This locality is 18 miles NE Avalon. In turn, the only known specimen from Baltimore County (Blenheim Road, 0.5 km E JCT MD Route 146, NHSM 2474, 8 June 1957; Miller, 1980) is 5.0 miles NW of this locality and 20 miles NE Avalon. Harris (1969, 1975) considers NHSM 2474 "to be an escape," but his new stance on the *Cemophora* report from St. Denis will require him to reconsider the distribution of *P. guttatus*, especially in light of the additional Kelly et al. reports from Baltimore County, which Harris was unaware of 50 years ago (Harris, 1966) and remains unaware of today. There are five other records for *P. guttatus* from the Maryland piedmont that I take the opportunity to reject. The first three are from Montgomery County. Hay (1902), without elaboration, reports the species from Wheaton, and McCauley (1945) accepts and plots it. This appears to be based on USNM 16285, 1 September 1890. Online data state: "Egg with embryo cut out. Macerated; destroyed Sept 22, 1933. DMC [Doris M. Cochran]." The strong possibility of confusion with *Lampropeltis triangulum* or *Pantherophis obsoletus* for this range limit record needs to be considered. A second record, from Chevy Chase (USNM 132395, 12 October 1952) is from a densely populated area in the District of Columbia suburbs. I suspect this is someone's escaped pet. This specimen also escaped the notice of Harris (1969, 1975). A third record (Rae, 1973; plotted by Harris, 1975) is from George Washington Memorial Parkway (now Clara Barton Parkway in this area), midway between Cabin John and Interstate Route 495, -- October 1969. Rae has nothing to say about what became of the snake. Given the amount of collecting that has taken place in the

District of Columbia suburbs, I believe this report also comes too late in the day for acceptance. Additional mischief may be created by documented piedmont localities for Carroll and Harford Counties that have not been previously reported. Respectively these are an adult from Poole Road, SE Westminster (USNM 330033, no date, but probably collected sometime between the late 1970s and the early 1980s) and a juvenile from Remington Road, SSW Fallston (TSU 8560, 11 April 1992). Little can be said about Kelly et al.'s Howard County report, except to note that no specimens or other reports exist for this county, and that it would add yet more highly dubious ammunition to uncritically minded people for whom virtually all records are valid. Kelly et al.'s final and disquieting comment on *P. guttatus* in their astonishingly poor work is under "*Records*:" "Other findings in the same localities."

Further complicating the situation are the credentials of the collector of the Howard County *Cemophora*, K. Crocetti. Crocetti, who has had a very brief career in local herpetology, has reported several records that I find extremely dubious. One of these, a first report of *Scaphiopus holbrookii* from Baltimore County (Harris and Crocetti, 2008), makes no sense and has already been criticized (Miller, 2013). One also finds a locality plotted for *Gyrinophilus porphyriticus* in the as yet unpublished Maryland Amphibian and Reptile Atlas (https://webapps02.dnr.state.md.us/mara/default.aspx?strSelection=Map4). This report is from the Patuxent Branch Trail, Howard County, 28 August 2010 (http://www.howardbirds.org/herpatlas/index-MARA.htm; http://www.howardbirds.org/herpatlas/HC_Herp_photos.htm#Salamanders). Like the Howard County *Cemophora*, a photograph accompanies this report. This record, the first for the piedmont of Maryland and proximate to the Fall Line, is ca. 40 miles SE of the nearest uncontroversial specimen, near Yellow Springs, Frederick County (CM 138925, 24 November 1940), which lies in the Blue Ridge Physiographic Province. [See Fowler (1944) for additional records from the Blue Ridge.] I was unable to learn precisely where this salamander was found, but am informed that the site of discovery was destroyed shortly thereafter by pipeline construction (S. Muller, personal communications, 2015, 2016).

In light of these mystifying reports, Crocetti's (Harris and Crocetti, 2007) report of "*Clemmys*" [= *Glyptemys*] *insculpta* from the Eastern Shore (county unknown, but either Queen Anne's or Talbot) now seems suspect. Although feral turtles may turn up anywhere, and the wood turtle is notorious in Maryland for this (Miller, 1993), Crocetti's report is curiously close to the only other Eastern Shore report for this species (Norman, 1939). Harris and Crocetti (2007) is also rife with awkwardness, errors, ignorance of the literature (including, especially, Harris, 2007), and the demonstrated distribution of the wood turtle in Maryland, but a discussion of it is well beyond the scope of this note. As such, I consider the Howard County report of *Cemophora* to be in need of verification and this is so indicated in Figure 1.

Harris's (2013) cited references are commensurate with his careless text. Rudolf G. Arndt is rendered as Rudy G. Arndt, Cooper (1950) has the wrong page numbers, Edward Drinker Cope appears as Edward D. Cope and the citation of Cope (1900) is incomplete and inaccurate. Grogan and Close (2008) is cited as Grogan (2008) in the text. Harris (1969) has an incorrect title. Littleford (1955) is cited as 1945, Herpetologica is misspelled, and the issue number is omitted. The title of McCauley (1945) is incomplete and Miller (1980) has the wrong page numbers. Willson (1998) is misspelled, the title listed is a jumble, is not in alphabetical order, and is an internet publication. Harris capitalizes words for no discernible reason, and there is no logic to the way he cites books. Numerous references, of varying importance, are overlooked: Committee . . . (1973); Conant (1945, 1958b, 1975); Conant and Collins (1991, 1998); Cooper (1953, 1956, 1966); Hardy and Mansueti (1962); Miller (1984); Reed (1956b, 1957); White and White (2007); Williams (1985); Williams and Wilson (1967).

Finally, a word needs to be said about the map that accompanies Harris (2013). Crudely drafted and with several inaccurately placed localities, Harris's map is a fitting accessory to his error-laden text. His map also bears a legend stating "Specimens Examined" and "Specimens Reported." Nowhere does Harris indicate that he has seen any of the material he reports or made any effort to have localities verified by contacting museum personnel. Furthermore, five "Specimens Examined" do not exist. One, from Cove Point, Calvert County, is based on a discarded specimen (NHSM 586; Cooper, 1950). Another, from Brandywine, Prince George's County, is based on a photograph (McCauley, 1940, 1945; Fowler, 1945), the whereabouts of which are unknown. Two others from the Eastern Shore (Grogan, 1985, 1994) are also based on photographs. As for the Howard County "specimen," the raison d'etre for this feckless publication, Harris has nothing to say about what became of it.

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Specimens Examined

DELAWARE: **Sussex County**: CM 108993. **DISTRICT OF COLUMBIA**: USNM 35308. **MARYLAND**: **Anne Arundel County**: NHSM 716; TSU 5293; USNM 141395 (not plotted; see text). **Baltimore City**: MCZ 750. **Calvert County**: NHSM 2361, 2717. **Charles County**: USNM 307452. **Prince George's County**: CM 140179. **Wicomico County**: AMNH 77104. **Worcester County**: ANSP 36238.

Literature Records Accepted

MARYLAND: **Anne Arundel County**: St. Margarets (Cope, 1900; Stejneger, 1905). **Calvert County**: Cove Point (Cooper, 1950; based on NHSM 586—discarded). **Prince George's County**: Brandywine (McCauley, 1940, 1945; Fowler, 1945). **Worcester County**: Millville (Grogan, 1994); Shad Landing State Park (Grogan, 1985).

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A Hot Time with the Tortoise Nerds

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Legs! We shall call her "Legs." Legs is a hiking fool. Legs is one of those women who doesn't sweat, doesn't get tired, doesn't feel pain. She eats killer bees right out of the hive for breakfast, combs her hair with prickly pear cactus pads, and flosses her teeth with porcupines. She competes in a man's world, and stoically endures extremes without complaint. She can go out on the hottest of days, and just stay with it. It is not that she rises above the extremes, she accepts them. Regardless of the circumstances, she is all day long, and all day strong. She is what I call a "Super Bio-Wench." The day that the guide was roped to her, she was on a mission. She was off to find her lost plot. The result of this effort was that a bunch of tortoise nerds unwittingly followed Legs into an August inferno. On the day about to be discussed, it was so hot that fire hydrants hung "Dog Wanted" signs.

The day started in typical tortoise nerd fashion. The punctual gathering at an unchristian hour of the morning at a rendezvous point took place. Fat pills were slam-dunked, while a sleep-deprived discussion amongst all members about the next step transpired. In all, eight people were involved. We had Legs, we had the guide. We had the turnip eaters. We had Rudy the Rabbit. We had the Froggie Girl. We had the Dragon, and his little intern too.

The guide was unsure of himself. He had only been near the Holy Ground once before. And that one time was on a MADD (Morons Applying Drunk Driving) herp adventure. He told the tortoise nerds this fact. When the mountain range was viewed from a considerable distance, he parleyed with the group. He pointed to the southwest end of the range and uttered: "I can get you *there*." (His right index finger pointed to the rough location). "Is this where you want to go?"

He asked the question mainly of Legs. Legs had done one of the first full blown tortoise studies in southern Arizona in this mountain range, back in the early 1980s. Legs was uncertain of exactly where to go, as a water-filled barrier now cut off her only known route in. It had been almost 20 years since Legs had last set foot in the area. She was clueless, and demonstrated this fact by giving the guide a shrug, her piercing eyes flashing defiance. Normally, a deer in the headlights look might have swept across her visage. Legs doesn't do deer in the headlights looks. Legs only knew that she was going to find the place no matter what it took. It would have greatly helped the guide to know this. But he eventually learned the hard way. It was next the guide's turn to shrug, and then he took charge.

Then came the final vehicular assault. Two vehicles caravanned behind the guide's Toyota Tacoma. The guide got us where he said he would. The three vehicles regurgitated their contents. Three groups were formed, and three Talkabouts were issued. The keepers of the Talkabouts were instructed to keep all members of their party in sight at all times. And then, eight people shotgunned across the rumbling countryside with seeking tortoise blood the sole purpose in mind. We were in quest of signs of Upper Respiratory Disease Syndrome (URDS) in the local population. We were also going to analyze any blood samples collected for genetics information. And we were about to pay a heavy price for obtaining multiple blood samples of both. The guide was handed a Talkabout. He and Legs became a force of two.

The guide had gotten close to Legs's plot—in the same fashion that Argentina is close to Africa. Legs must have realized this, and bolted from Argentina for Africa, with the guide hot on her heels. The guide, who was the repository of the Talkabout for his group, felt a foolish manly responsibility to watch over his feminine flock. Being a man and all, he was afraid to try to stop the rapid progress of his partner—lest he be branded as a man sissy. He was determined to show that bio-wench what he was made of.

The other two parties wisely fanned out, moved slowly, and began finding tortoises. In no time flat, Legs and the guide were *miles* from the other two parties.

Mother Nature played a big part in the events that followed. She can be downright conniving in her deception. She started the morning by lovingly covering the tortoise nerds with her skirt. It was delightfully cool, with a thick layer of Her fluffy petticoat stretching horizon to horizon. When the timing was just right, the Almighty Wench raised her skirt as if to say: "How about a little ***fire***, scarecrows?"

The clouds cleared out. With nothing to thwart its intensity, the burning orb in the sky kicked things up several notches, and lowered itself in the sky until it was barely six inches above our heads. It was at this point in time that Legs and the guide hit the mother lode of tortoises. It was a cornucopia of chelonian flesh, just begging to contribute to our little blood drive.

The guide spoke into his Talkabout. "Rudy the Rabbit, this is the guide. Do you copy? Over."

"Yes guide, I copy you loud and clear. Where are you? Over."

"We are miles from you. Legs here found a tortoise, and there's at least four more in a caliche cave behind the one she found. Over."

"Yeah guide, we want a piece of that action. Where are you? Over."

"I'm standing next to a saguaro. Over."

A tense silence followed, and then: "Could you be more specific? Over."

"There's a bursage next to it. Over."

"***Quit screwing around and tell me where you're at!***"

"You forgot to say 'Over.' And you just ended your sentence with a preposition. Proper Talkabout etiquette was just breached here—not to mention slaughtering the English language. You want I should report you to the FCC? Over."

"Ok, quit screwing around, and tell me where you're at—you *jerk*. Over—dammit."

"How in the hell should I know where I'm at? You team me up with this Nordic version of Wonder Woman, and she leads me to Phoenix. You want I should try a manly yell? Over."

Silence for second, and then: "Yes, let's try that. Over."

The guide has a good set of pipes. Since chivalry is not dead from the male side of the team effort, he warns Legs to cover her ears. This being done, he sucks massive quantities of oxygen deeply into his lungs, and bellows:

"YYYYYYYYYYYYYYYYOOOOOOOOOOOOO."

The lengthy "yo" reverberates thunderously about the canyons. Birds fall from the paloverdes, blood oozing from their ears and beady little eyeballs. The startled heads of nearby tortoises retract so quickly that they wind up dangling out of their cloacas. And then came the response over the Talkabout: "I think I heard a little Girl Scout singing. Could you try that again? Over."

Over an hour later, all the Yo-ing and counter-Yo-ing brings the red-faced team together. The turnip eaters are first to arrive. Further incoming includes the Dragon—and his little intern too. Finally, the blood-sucking Rudy arrives, with Froggie Girl (who is no doubt dreaming of counting plips and plops at some idyllic and heavily shaded riparian corridor) in tow. As Rudy begins to assess the cave, the guide begins to take stock of the situation. We are over three miles from our vehicles. Only half of us have any water left. And the first signs of dehydration and heat exhaustion began to enter the conversation.

"Here's what we should do," the Dragon rasps. "We need to crawl into that cave with the tortoises. If we just lay in there until it cools down, we can walk out later."

Good gawd, man! We *were* in trouble! First off, it was not going to cool off for another eight hours! We'd be lucky if we all lasted eight minutes. Secondly, that tortoise cave was definitely *not* the place to spend that eight hours. It was a hot, humid, rat turd-infested incinerator. We would have curled up in a bedding of cactus spines and cholla pods. It was a great place to snort hantavirus. But it was a *lousy* place to wait out an August inferno—if one wishes to stay alive—especially with limited water supplies on hand.

As Rudy the Rabbit gamely wiggled his way into the cavernous depths of the "tortoise hotel" to get his quarry, the guide unzipped his own backpack to check his personal water supply. One half a liter! One half a liter—to carry him three miles over undulating territory—to a parking spot discovered during a booze 'n cruise two years previous! Everybody is in it deep, and he knows it. He is NOT infallible—and he knows that too. On top of that, he is already sun stupid himself. Crawling into the tortoise hotel for a nap is starting to sound like a good idea.

"You guys do what you want. I'm heading back for the parking spot. If I find it, I'll pack some coolers and get closer to you guys."

With that, the guide drops his flock like a soiled piece of Charmin. He hopes he can make up for his desertion somehow. He has a vague notion of the backroads in the area. ***If*** he can find the vehicles, there is plenty of ice-cold water there. Maybe he can utilize this—and his vehicle, to serve the rest of the party. The nice part about hanging with a large group is that one can always follow a trail of dead bodies in order to find any survivors.

Over the rumbling terrain goes the guide. At one point, he drops into a ravine, and notes six Diamondbacks piled in a shallow caliche cave. As bad off as he is, he recognizes this as something special, and radios this info in to the group. They are unimpressed, for they are, after all, tortoise nerds. (The experience remains to this day the *only* time that the guide has seen an atrox aggregation of this magnitude during the summer months. Five tortoises, and six atrox in respective holes is absolutely unheard of in these parts in August. The area was immersed in a fierce, fiery drought, and drought makes for unusual bedfellows).

The last major arroyo is crossed. There is now nothing but one-half mile of blazing hot saguaro-studded flats separating the guide from safety. All he has to do is miss the parking spot by 100 meters, and he is a dead man. He will keep walking until he drops to his knees, and he will know that he blew by the spot. But he will be too weak to do anything about it.

He is out of water. The landscape shimmers in the heat, and alters reality. The saguaros are swaying, as if welcoming a newcomer by performing a respectful slow dance. In spite of the heat, the guide's skin is dry. There is nothing left inside to sweat out. He picks up a small pebble, and beings to suck on it. A little spittle gathers around the pebble, and this is greedily swallowed. Three trucks appear on the horizon. He is luckily dead on with his best guess of the parking spot. Soon, ice cold water is flowing down his gullet in such fashion as to produce an instant headache. It is the best headache that he has ever suffered.

Five minutes later, the turnip eaters arrive. There must be something to their Spartan diet, for they act as if nothing is remiss. But they also drink heavily from their stashed supplies while awaiting the next step. We are about to check in on the Talkabout, when Rudy beats us to the punch.

"This is Rudy the Rabbit, do you copy? Over."

"We gotcha Rudy! Where you at? Over."

"The Dragon, and his little intern too, are laying under a paloverde. They want to wait here until it cools off before going any further. Could you guys sound the horns, and let us know where you are?" The horns obligingly blare, and Rudy checks in on the Talkabout to say they are coming in. Presently, the group is viewed crossing the shimmering bajada. One by one, they straggle in. As each arrives, they go straight for the big cooler—the one kept in reserve. They each drink deeply in an orgy of rehydration. Rudy has brought some pump-action squirt gun cannons, and all take turns blasting each other with the refreshing liquid. A series of orgasmic "ooohs and ahhhs" follow each crude but effective shower.

Thus it came to pass that on August the 12th, in the year 2000, eight people had a little brush with danger. No harm, no foul, we all walked away. We found a mess of tortoises, piles of Diamondbacks, a couple Tiger Rattlesnakes, and the usual hodgepodge of common lizards. It was an outstanding herp day. The lessons that should be learned are not obvious. An outsider could judge harshly by simply saying: "You idiots, you didn't carry enough water." The guide packed three liters of water in with him. That should have been enough to get him through, with extra to share if needed.

No, where we went wrong here was by starting badly.

Everybody plunged into the fray with zero direction on what exactly we were supposed to be doing. There were tortoises to be found within a quarter mile of where we parked—yet we wound up three miles away! There was no time limit established. Nobody said "If we drift apart, we need to pull the plug and meet at such and such a place by 11:00 A.M.." Nope, that didn't happen either. Nor was there any effort to communicate our water situation until it was too late.

Herpers are by nature a group of loners. This often makes us reluctant to take charge when placed in a position of leadership. As a person who volunteers to assist the local researchers, I am seeing ever younger faces thrust into the role of leadership. Some perform the job admirably, others are just plain piss poor. (Many of our veterans are also terrible, and should take heed). So, all of you, young or old, listen up a minute. When you lead a group of volunteers into the field, you are personally responsible for that group. If something—*anything*—goes wrong, it could affect your project, your personal finances, and your future. For that reason, I'm suggesting that those of you who are in charge of any given group—take charge! It doesn't matter who is in that group—you're the boss. Have a plan formulated. Draw a map in the sand. Designate a meeting place, and a time to be there. You are well within your rights to drop your timid ways, and become a lion or lioness.

Proper face-to-face communication at the start is the key to getting out alive at the finish.

Epilogue

The preceding article was resurrected and refined from a mass email that "Tying Boy" here issued about a decade ago. Said email ended in similar fashion—with me getting all preachy. (But the lesson is good). In hindsight, I wish the email had never been sent. It is felt that this author did not show the proper respect to the group that he was hanging with. This author wants a shot at redemption. They were a highly experienced group of crackerjack wildlife biologists and tortoise Jedis. The main reason we got into trouble was because an aggregation of tortoises was found at about the same time we should have been meeting back at the vehicles. We were too good for our own good!

The main character in this story is "Legs." Her real name is Sherry Barrett. There are a few similarities between Sherry and Legs. They are both tough in the field. When on a mission, there can be no such word as fail. They are determined to compete in what used to be man's job, and they are carrying the weight admirably. All that being said, Sherry does not comb her hair with cactus pads, or floss with porcupines. In reality, she is nice to look at, and always lights up any room that she enters. No, when Legs entered this story, she became the embodiment of every Super Bio-Wench I've ever had the privilege of herping with. In particular, tortoise nerd Super Bio-Wenches are nail tough. They have to stay outdoors in extreme heat for prolonged periods of time. In order to be able to endure the hard work and heat, they have to be in top shape. And they are a fiercely independent breed, best admired from a distance. I had been doing exactly that with Sherry for over 12 years before the day of this outing. I already knew that she was not as good as me—she was better!

The very first meeting of the Tucson Herpetological Society this author ever attended was in February 1988. Sherry Barrett was the speaker, and she spoke of her Master's project at that meeting. In the early 1980s, she did an environmental assessment project just prior to and after the Central Arizona Project (CAP) created a major canal to bring water from the Colorado River to Tucson. A stretch of this canal, still in use today, cuts across the western edge of the Picacho Mountains, and forms a barrier between the mountain range and the bajada to the west of them. At the point where the canal separates the Picacho Mountains from the bajada, it is a 30-meter-wide swath of open water lined by cement. Tortoises were the perfect animal to study what impact, if any, the canal might create with the wildlife. Sherry's rant was a great presentation, and a spectacular start to my association with the THS.

"Rudy the Rabbit," AKA Taylor Edwards, has also contributed mightily to the local tortoise scene. This author can say with certain sense of overt pride that, back in 1995, I was the person who taught Taylor how to find tortoises by shining burrows with a mirror. He has come a long way since that time, and all the more so since the day of this adventure. Taylor recently received his Ph.D. He has been at the forefront of many genetics studies of wildlife around the southwest, and is part of the team that divided the western clade of tortoises from one species into four. His Masters project was the reason for the field trip on the day described above. We were seeking URDS, (and thankfully, didn't find any), and we wanted DNA.

"The Dragon" is none other than Cecil Schwalbe, a man who describes himself as the luckiest man alive. But he used that luck to the fullest. Just after receiving his Ph.D., he became the first state herpetologist while working for Arizona Game and Fish in Phoenix. He eventually moved back to Tucson, assuming the role of "head geek" of the School of Natural Resources at the University of Arizona. Too many students to enumerate here went on to successful careers as wildlife biologists under Cecil's watch, mainly in the realm of tortoises and frogs. Cecil's "little intern" was somebody named Nicholas, his last name and whereabouts unknown.

"Froggie Girl" was Caren Goldberg, who at the time was working on her Masters with a study on Barking Frogs. She has since earned her Ph.D., and is doing her life's work with water quality issues and amphibian populations in riparian corridors. "The turnip eaters" were Dale Turner and Julia Fonseca. They are religious followers of their bible, *Diet for a Small Planet*, and are both devoting their lives to saving our world. Dale earned his Masters working with Fringe-toed Lizards, and Julia closely monitors the water quality that feeds Tucson. The CAP project is a big part of her livelihood, and her heart is with all wild animals that live near Tucson.

As suggested early in the narrative, Sherry was on a mission to find her tortoise study plot this day. That mission failed only because the tortoise hotel that we (Sherry and the guide) found thwarted us. We were a scant 100 meters away from the spectacular arroyo that was her home away from home so many years ago. Sherry did not take her mission to find the place lightly, for good reason. In the weeks that followed, she did some reconnoitering on her own, and found a road that got us much closer to the action.

On 23 September 2000, Legs led Rudy and the guide to the

tortoise Promised Land. A short walk later, we stood at the mouth of a wide arroyo with gentle sloping sides that were in turn absolutely infested with all manner of holes and cavernous burrows. Even before we started fanning out to shine these, I knew the place would be infested with tortoises.

There is no reason to go into a blow-by-blow account of the tortoise turkey shoot that followed. But the fifth tortoise found that day still carried an old transmitter glued to her carapace. She was a 263-mm Mean Carapace Length (MCL) female, whose transmitter died and was subsequently lost back in 1982! The metrics that we performed that day revealed that she had grown less than one millimeter during the 18-year time span since her previous measuring. This leaves me wondering how long these magnificent creatures can live in the wild. We take a large adult tortoise to start with, and 18 years later she has grown less than a millimeter? It makes one wonder how long it took her to get to the size that she was in 1982? And more importantly, how much longer will she be around?

As Sherry's tortoise study was one of the first of its kind in Arizona history, it is by far the best place to start again if we are ever to learn any meaningful data on the lifespan of tortoises in the wild. Any repeaters that we might find again would now have an additional 16 years seniority tacked on to their known life. I would volunteer in a heartbeat to help if such an opportunity was available. There is nobody in the world who loves tortoises more than I, and there is nobody in the world who values being part of an important dataset that will continue long after I am dead. If that is my only legacy, I have done splendid. We really should do it!

Before closing, there is one last tidbit to reveal regarding our last visit to Sherry's plot. Sherry's road ends at a place where a game bridge crosses the canal. About 50 meters upstream from said game bridge, a six-foot-diameter cement culvert angles above the canal, crosses it, and dives back down flush to the other side. Just before we drove away, we explored around and through that culvert. We found tortoise tracks in the sand on the east side of the culvert adjacent to the mountains. And we also found tortoise scat on the other side. At least one tortoise had figured out how to use the culvert to cross that canal. I expect that many more do the same. As all size classes of tortoises were found on these two trips, from yearlings to mid-sized to massive adults, we can safely assume that the canal didn't wipe them out.

This here is Roger Repp, signing off from Southern Arizona, where the turtles are strong, the snakes are handsome, and the lizards are all above average.

Minutes of the CHS Board Meeting, June 17, 2016

President John Bellah called the meeting to order at 7:40 P.M. Board members Amy Bochenko, Aaron LaForge, Mike Scott and Amy Sullivan were absent. John announced that the meeting would be conducted in a new order. Minutes of the April 15 board meeting were read and approved. There was no board meeting held in May.

New Business

Rattlesnake Preservation Trust: John B. stated that the trust had requested a $1200 donation for an inaugural event 2 months ago. The deadline for the event has since passed. This is a new organization. John suggested giving them a donation as a goodwill gesture. This was voted down. He will obtain more information regarding the board structure and finances.

Midwest Symposium: John B. listed speakers who have agreed so far. He has several more in mind and Mike D. is also contacting several people. Jessica will be getting the website up and running. This includes online registration. T-shirt design is being worked on by Don Wheeler. The auction is in the works.

Special events at the Notebaert: We have been asked to display animals two nights this summer when the museum will be open late. Wednesday, July 20, will be to celebrate the CHS 50th anniversary. The museum will help with set-up, provide food and offer free membership to anyone who participates. Thursday, August 25, is Family night. Museum open until 9 P.M. The museum will be open late a total of eight Thursdays through the summer. Dick Buchholz can be present some of those evenings.

Social media: John B. was contacted by a woman who is interested in managing all social media for the CHS. He will invite her to the next board meeting.

New wildlife refuge: Mike D. reported that the Friends of the Kankakee have notified the CHS that the USFWS has designated a large area in Kankakee and Iroquois counties as the Kankakee National Wildlife Refuge and Conservation Area.

Officers' Reports

Treasurer: No report this month, as Amy Sullivan is in the midst of a move.

Membership secretary: Mike Dloogatch read the list of memberships that expired in April.

Sergeant-at-arms: Attendance at the May general meeting was 23.

Committees

Shows: Reviewed the list of upcoming shows June–September. Dick Buchholz will be covering most.

Jr. Herpers: Attendance was 40 at the May meeting. Allison Pelletier from Curious Creatures brought animals. The field trip to McKinley woods was well attended and a success. The July meeting will be a show and tell.

Old Business

ReptileFest: The CHS received a $350 donation from Al's Beef. Motion passed to make them an official sponsor of ReptileFest.

Hydration for conservation: Not much money came in through this. A motion passed unanimously to donate $1000 to each of the IRCF and the Mona Island Frog Conservation project.

The meeting adjourned at 9:20 P.M.

Respectfully submitted by recording secretary Teresa Savino

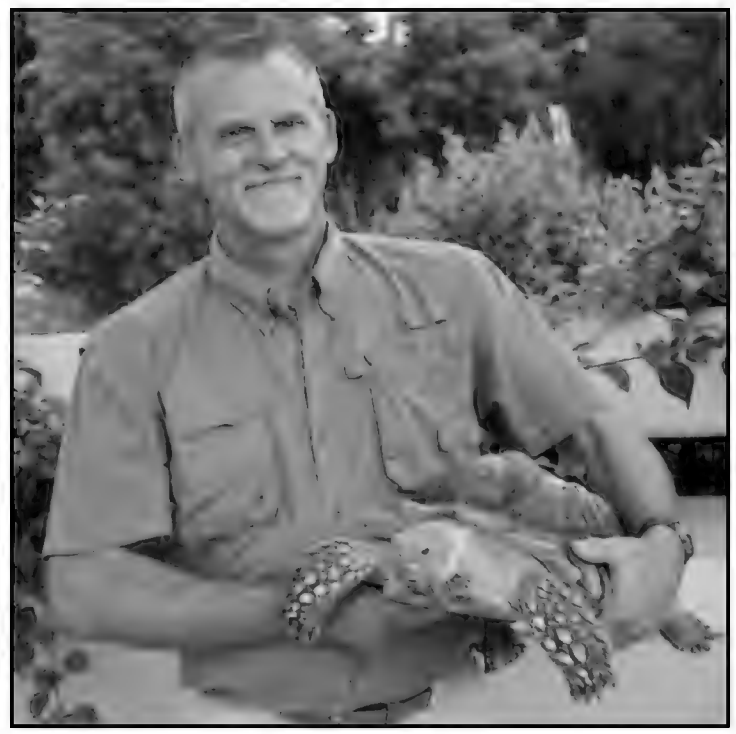
Bulletin of the Chicago Herpetological Society 51(8):143-144, 2016

What You Missed at the July Meeting

John Archer
j-archer@sbcglobal.net

So the Midwest Herpetological Symposium (September 30 – October 2) is rapidly approaching and the Chicago Herpetological Society is the host. We've held down the cost and registration is only $100. That includes Friday night icebreaker, Saturday night banquet and auction and a Brookfield Zoo tour Sunday morning. Rooms can be reserved for $111/night. Parking is free. We have a great selection of speakers. You won't want to miss this. Details can be found online at: www.chicagoherp.org/index.php?link=midwestconf16.

Now about July's meeting:



Dr. Doug Mader. Photograph by Dick Buchholz.

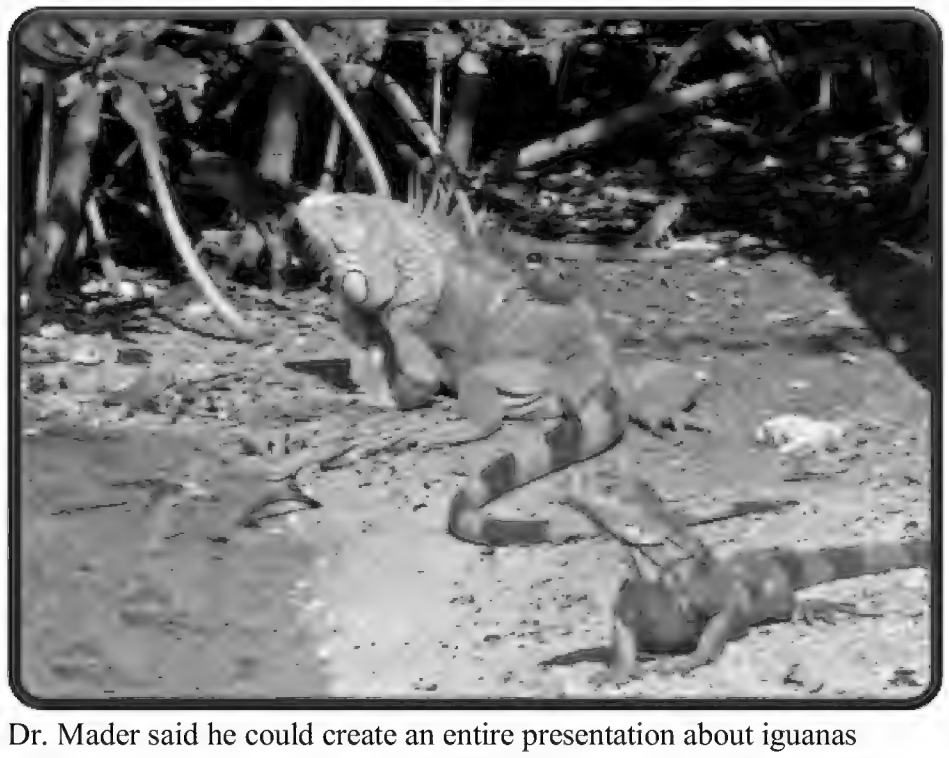
It's not what you know; it's who you know (I know it should be "whom," but does anyone really say that?) There is no doubt that statement is sometimes true and it's often uttered with derision, but society by definition means knowing people and who one knows does present opportunities. You are lucky to be a member of a society that has many connections that lead to more connections, some of which allow your society to present speakers the caliber of our July speaker. Our famous and fabulous long-time member and past president Dr. Steve Barten happens to be friends with the famous and fabulous Dr. Doug Mader. If you don't know about Dr. Mader, ask your exotic vet. I doubt there's an exotic vet, or any vet, in the country who doesn't know of Dr. Mader. I would try and give a brief biography, but it would take more pages than I'm allowed. Google his name if you want to be impressed.

Wednesday night he talked about "Iguanas in the Florida Keys."

Dr. Mader said he could give an entire talk on his title slide. The picture was of a large, bright-orange male iguana surrounded by a couple of females and a couple of juveniles. Iguanas, as anyone attempting to keep several together can attest, are not gregarious and the photo was only possible because of the puddle in the foreground of the picture, a result of rainfall during the dry season. He wanted to point out a few things about the wild animals and mentioned the robust looking male with its bright orange coloring that appears during the breeding season (mid-January to mid-March in the Florida Keys). The lizards do well in the heat and humidity of the Florida Keys. Tourists (and Dr. Mader) love them, but many Key residents look at them as a major nuisance. I don't know how Doug manages to accomplish all that he does, but he takes on tasks with commitment and competency. As the attacks on iguanas became heated, Doug joined the battle on the side of the iguanas. On the other side were many local residents, and at times the county commissioners, public health department, and Florida Fish and Wildlife Commission. The battle continues, but progress is being made for the iguanas, thanks in large part to Dr. Mader's efforts.

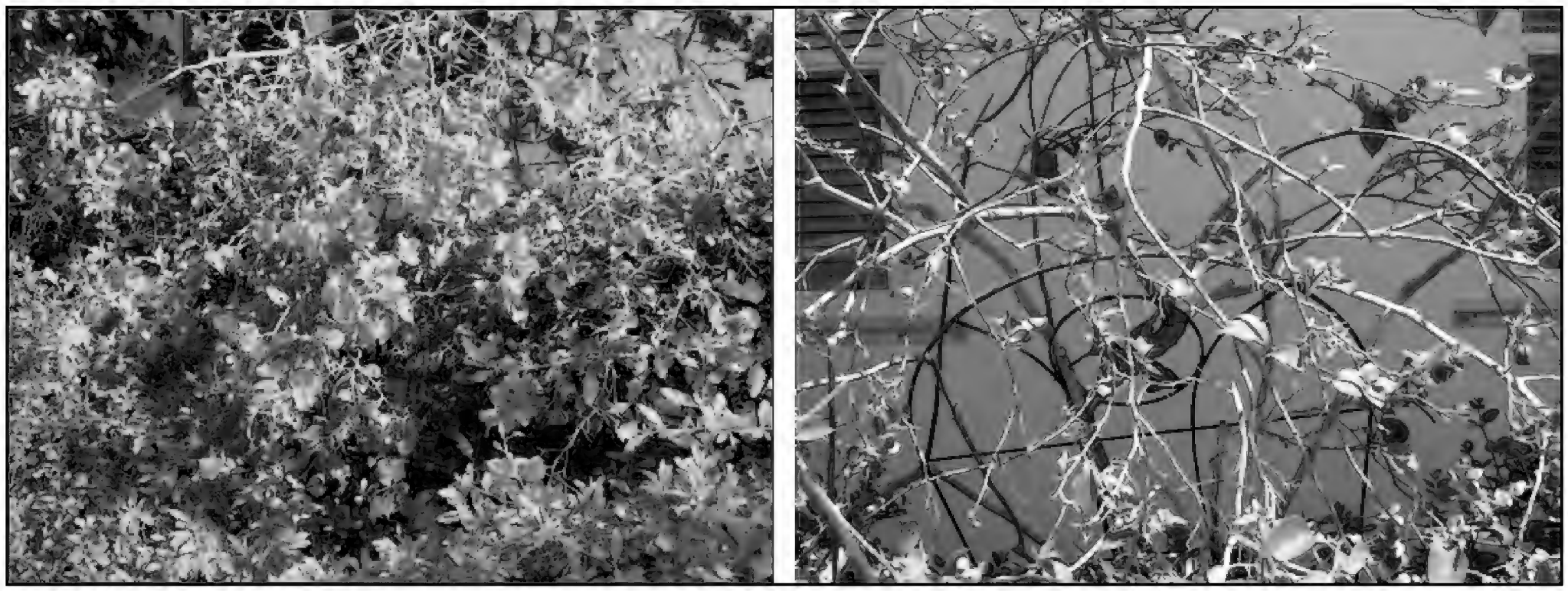
Iguanas are considered invasive in the Keys, and Dr. Mader doesn't disagree with that, but he thinks that the majority of the lizards are natural invasives from Central America and the Carribean, riding rafts of vegetation over the ocean. He showed a photo of a Cuban iguana that he discovered near his home on a raft of vegetation blown on shore after a storm. Definitely not a released pet. Doug did a search of historical records and found references to iguanas in the Keys from the 1950s. Those were certainly unlikely to have been escaped or released pets.

Why are these gorgeous lizards considered a problem by some people? Doug listed the arguments for eradication, which was formerly considered legal by any means and is still consid-



Dr. Mader said he could create an entire presentation about iguanas using this photo from his opening slide. Photograph by Doug Mader.

A healthy male near Dr. Mader's home. Photograph by Doug Mader.



Perhaps the biggest complaint about iguanas in the Keys. Before and after iguana dining. Photographs by Doug Mader.

ered legal by some means. You can legally shoot iguanas in some places in the Keys as long as you kill them with one shot.

Perhaps the biggest complaint about iguanas is a result of the habits of the very people doing the complaining. Residents plant yards with a buffet of plants and flowers. And iguanas, being folivores, appreciate the habitat improvements and reproduce readily. Dr. Mader labeled it reverse habitat encroachment, as the residents improve the habitat for the animals. He had some interesting photos of the decimation iguanas can effect on flowering plantings. They also dig burrows in gardens. Two of the less plausible problems brought up include *Salmonella* and spreading disease when they crap. Doug gave us an overview of the many more likely ways one could encounter *Salmonella*, including outbreaks from tomatoes and peanut butter.

The perceived problem associated with the disappearing flowers and plantings could be solved easily by simply avoiding plants that attract iguanas, but Dr. Mader works with several tourist attractions in the Keys and often the value of the botanical collections in these venues exceeds the value of the animal collections. In one attraction on an island, Doug solved the problem of overly voracious and fecund lizards by first performing hemipenectomies on the alpha males, and then setting up feeding stations away from the valued plants. The lizards are territorial and easily trained to expect food at a certain time and place, so the facility's plants survive and the lizards survive, keeping the managers and the tourists happy. Throughout his talk Doug stressed solutions to the problems with iguanas do not involve rocket science and are achievable without being cruel to the lizards. And the iguanas already succumb to many threats, including not only cars, but also commercial enterprises that will capture and kill iguanas.

Doug spoke about many other areas of interest. Freezing is not a humane way to euthanize ectotherms; it is possible to neuter male iguanas (as opposed to hemipenectomy) but it is expensive and time consuming; invasive birds, frogs, fish, and some flora are much greater threats to native life in the Keys than iguanas. He has a great sense of humor (how a Burmese python could be a natural invasive, " . . . swims from Burma all the way across the Pacific Ocean, gets on a train, takes a train across the United States, and then a Greyhound bus down to the Keys." He is terrific company. He went to dinner after the meeting in spite of already having eaten and being pretty tired, simply to talk with us as we ate.

So if you attended the meeting you could say Dr. Doug Mader is someone you know, and while you still need to accomplish tasks to make it through life, having Doug Mader as someone you know is not a bad thing at all. Sometimes it *is* who you know.

Iguanas are great tourist attractions. Photograph by Doug Mader.

Herpetology 2016

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

POPULATION GENETICS OF THE COPPERHEAD

B. A. Levine et al. [2016, Copeia 104(2):448-457] note that population genetic data are an important standard with which to gauge demography and gene flow within and among biodiversity units, and are often gathered on species of conservation concern. Yet an exclusive focus on "conservation immediacy" can also have negative consequences. For example, it can shift monitoring efforts away from more abundant and/or widely distributed clades and, by so doing, promote a more myopic approach to conservation and management. A current example concerns North American pitvipers (Viperidae: Crotalinae), within which listed species of *Crotalus* and *Sistrurus* receive considerable population genetic attention whereas broadly distributed *Agkistrodon* is largely overlooked. To address this disparity, the authors used 22 polymorphic tetranucleotide microsatellite loci to explore genetic structure, diversity, and relatedness in a Connecticut population of copperheads (*A. contortrix*). Three admixed genetic clusters were identified across five winter dens, with overall and sex-specific relatedness similar among dens and across the population. First- and second-order relationships were identified within the population, then juxtaposed against known den associations. Values for genetic structure, diversity, and effective population size are similar to those reported for populations of North American *Crotalus* and *Sistrurus*. However, the study population did not sustain a genetic bottleneck following recent anthropogenic habitat alterations, and this may reflect a potential resilience to environmental change, particularly when compared with North American *Crotalus* and *Sistrurus*. These results underscore the importance of (1) quantifying population-level parameters in nonthreatened crotalines so as to broaden and extend our understanding of anthropogenic impacts, and (2) evaluating population genetics in taxa that appear superficially resilient to anthropogenic modifications. The latter may also promote valuable comparative analyses with threatened and endangered taxa.

PLETHODONTID SALAMANDER LONGEVITY

N. L. Staub [2016, Copeia 104(1):118-123] notes that it is hard to determine how long salamanders live in the wild. Maximum age estimates using skeletochronology tend to be lower than estimates based on recaptures and size-frequency studies. This discrepancy between techniques suggests it may well be difficult to discern the lines of arrested growth in bones when salamanders are old and their growth rate very low. The author reviews techniques used to estimate longevity, compares age estimates from field studies (recapture and size frequency comparisons) with those from skeletochronology, reviews growth models, and suggests future work to specifically address salamander longevity. Based on observations from captive animals, plethodontids can live a long time (e.g., 36 years). A better understanding of natural longevity is important for understanding the actual age structure of populations and for conservation efforts.

HIBERNATION ECOLOGY OF BOG TURTLES

L. M. Smith and R. P. Cherry [2016, Copeia 104(2):475-481] note that information on the hibernation ecology of bog turtles (*Glyptemys muhlenbergii*) throughout their range is limited. Few studies have identified suitable hibernacula or documented behavior during hibernation including site fidelity, communal hibernation, and entrance and emergence times. This study presents longterm documentation of hibernation in a relatively understudied portion of the species' range. From fall 2005 to spring 2014, the authors observed the hibernation of 13 marked turtles in an isolated population located in the southern Appalachian Mountains of North Carolina. During the course of the study, nine turtles were radio-tracked for 1–5 y. Turtles spent about six months in hibernation, usually entering the hibernaculum in late September into October and emerging in midApril. Using radiotelemetry, they identified 11 hibernacula of three types: root masses of trees/shrubs, root masses of cinnamon ferns (*Osmundastrum cinnamomeum*), and sedge (*Carex stricta*) clumps. Site fidelity and communal use were common in the study. Ten turtles located in multiple winters repeated their use of a hibernaculum in at least two of those winters. Twelve turtles hibernated communally in at least one year. No mortality was observed at the hibernacula. This study demonstrates the importance of root masses with soft deep substrate for survival in long, harsh winter conditions. Bog turtles spend about half of every year, and therefore half of their lives, in hibernation, making the identification and protection of suitable habitat for hibernation imperative for successful management to ensure the long-term viability of the species.

EFFECTS OF CRAYFISH ON TADPOLES

H. C. Chandler et al. [2016, Journal of Herpetology 50(2):271-277] note that predator–prey interactions play an important role in structuring larval anuran communities in ephemeral wetlands. The type of interaction often depends on the predator species and the complexity of the aquatic habitat. The authors experimentally evaluated the effects of Panhandle crayfish (*Procambarus evermanni*) predation on larval southern leopard frogs (*Lithobates sphenocephalus*) and larval ornate chorus frogs (*Pseudacris ornata*). They performed separate experiments for each frog species and used multiple vegetation treatments to examine whether vegetation could provide refugia from crayfish predation. Results indicate that crayfish are effective predators of anuran larvae regardless of the amount of vegetation present. Encounters between tadpoles and crayfish often resulted in nonlethal tail injury for tadpoles, suggesting that crayfish predation is prominent in ephemeral wetland communities. Leopard frog tadpoles in predator treatments also grew larger than their counterparts in nonpredator treatments, suggesting a reduction in intraspecific competition. Reduced competition and higher growth rates may allow anuran larvae to develop and metamorphose faster, allowing them to escape aquatic predators, drying wetlands, or both.

A PARTHENOGENETIC PLEURODONT IGUANIAN

C. S. Abdala et al. [2016, Copeia 104(2):487-497] note that vertebrate taxa with entirely unisexual populations are composed of females that reproduce without fertilization and are generally of hybrid origin. At least 23 vertebrate families have unisexual lineages. Within squamate reptiles, >40 uniparental species have been described from five major lineages: acrodont iguanians, Gekkota, Serpentes, Scincomorpha, and Varanidae. Pleurodont iguanians include >1100 species, all of which have gonochoristic reproduction. Here the authors report the discovery of a new unisexual lizard from the liolaemid genus *Liolaemus*, a species-rich (~260 species) clade distributed over most of southern South America. The new species, *Liolaemus parthenos*, is the only known all-female triploid pleurodont iguanian. The structural chromosome heteromorphisms of the karyotypes support the hypothesis that *L. parthenos* is the product of a hybrid origin. Based on morphology, the new species is assignable to the *L. boulengeri* group, and phylogenetic analyses of mitochondrial DNA indicate that *L. parthenos* is nested within *L. darwinii*, suggesting that the latter is the maternal ancestor of this species. Additional data are needed to identify the patrilineal ancestor.

DETECTION BY ENVIRONMENTAL DNA

T. W. Pierson et al. [2016, Copeia 104(1):78-82] report that the isolation and identification of environmental DNA (eDNA) offers a non-invasive and efficient method for the detection of rare and secretive aquatic wildlife, and it is being widely integrated into inventory and monitoring efforts. The patch-nosed salamander (*Urspelerpes brucei*) is a tiny, recently discovered species of plethodontid salamander known only from headwater streams in a small region of Georgia and South Carolina. The authors present results of a quantitative PCR-based eDNA assay capable of detecting *Urspelerpes* in more than 75% of 33 samples from five confirmed streams. The method was deployed at 31 additional streams and located three previously undocumented populations of *Urspelerpes*. The authors compare the results of the eDNA assay with use of aquatic leaf litterbags for rapid detection of *Urspelerpes* and demonstrate the relative efficacy of the eDNA assay. They suggest that eDNA offers great potential for use in detecting other aquatic plethodontid salamanders.

TRAVANCORE TORTOISE HABITAT

V. Deepak et al. [2016, Journal of Herpetology 50(2):278-283] note that Travancore tortoises (*Indotestudo travancorica*) are endemic to the Western Ghats, south India. Landscape level surveys showed no clear habitat selection by the species. Therefore, radiotelemetry was used to study home-range size and fine-scale spatial movement habitat use of four tortoises from 2008–2010. Minimum convex polygon home-range sizes of the four tortoises varied between 5.2 and 34 ha. Tortoises spent a majority of their time in evergreen forest edge that had bamboo–lantana–grass. Eighty-two percent of the locations in the evergreen forest, and 95% of the locations in the bamboo–lantana–grass habitat, were at the edge of these habitats. Therefore at a fine scale, tortoises used the forest edge, possibly because it provided opportunities for foraging and thermoregulation.

REASSESSING CONSERVATION STATUS

R. M. Lehtinen et al. [2016, Journal of Herpetology 50(2): 249-255] note that amphibians are among the most endangered organisms on Earth; however, few monitoring studies have been conducted in the tropics despite high amphibian diversity in these regions. To help fill this gap, the authors completed fieldwork to reassess the status of the Bloody Bay poison frog (*Mannophryne olmonae*, an endemic from the island of Tobago), classified as "Critically Endangered" by the original IUCN Global Amphibian Assessment, though recently downgraded to "Vulnerable." To assess occupancy patterns and population stability, the authors used occupancy modeling with three years of listening survey data (2011–2013) from 35 sites. To examine patterns of relative abundance and recruitment, they gathered frog encounter rate and body size data from 18 streamside transects. To assess current distributional limits, they conducted listening surveys at and beyond the known range limits. Together, these data suggest that *M. olmonae* is more widely distributed than previously reported (23 extralimital populations were found), is present at a high percentage of sites surveyed (>70%), and is successfully reproducing along all of the streamside transects on which they were found. Also, *M. olmonae* was found in a variety of forest types including both degraded secondary forest and abandoned cacao plantations. These field data were instrumental in downgrading this species and emphasize that species of conservation concern need to be monitored on the ground after listing, and these efforts must be continued to detect ongoing change. This study suggests that even brief surveys in limited areas can quickly provide useful conservation data.

WATERSNAKES IN SOUTHERN CALIFORNIA

R. N. Reed et al. [2016, Herpetologica 72(2):130-136] report that southern watersnakes (*Nerodia fasciata*), native to the southeastern United States, are known from two sites in California, but their ecological impacts are poorly understood. The authors investigated the ecology of southern watersnakes in Machado Lake, Harbor City, Los Angeles County, California, including an assessment of control opportunities. They captured 306 watersnakes as a result of aquatic trapping and hand captures. Snakes of all sizes were captured (162–1063 mm snout–vent length [SVL], 3.5–873.3 g), demonstrating the existence of a well-established population. The smallest reproductive female was 490 mm SVL and females contained 12–46 postovulatory embryos (mean = 21). Small watersnakes largely consumed introduced western mosquitofish (*Gambusia affinis*), while larger snakes specialized on larval and metamorph American bullfrogs (*Lithobates catesbeianus*) and green sunfish (*Lepomis cyanellus*). Overall capture per unit effort (CPUE) in traps declined with time during an intensive 76-d trapping bout, but CPUE trends varied considerably among traplines and it is unlikely that the overall decline in CPUE represented a major decrease in the snake population size. Although no direct evidence was found that southern watersnakes are affecting native species in Machado Lake, this population may serve as a source for intentional or unintentional transportation of watersnakes to bodies of water containing imperiled native prey species or potential competitors.

Advertisements

For sale: **highest quality frozen rodents**. I have been raising rodents for over 30 years and can supply you with the highest quality mice available in the U.S. These are always exceptionally clean and healthy with no urine odor or mixed in bedding. I feed these to my own reptile collection exclusively and so make sure they are the best available. All rodents are produced from my personal breeding colony and are fed exceptional high protein, low fat rodent diets; no dog food is ever used. Additionally, all mice are flash frozen and are separate in the bag, not frozen together. I also have ultra low shipping prices to most areas of the U.S. and can beat others shipping prices considerably. I specialize in the smaller mice sizes and currently have the following four sizes available: Small pink mice (1 day old—1 gm) , $25 /100; Large pink mice (4 to 5 days old—2 to 3 gm), $27.50 /100; Small fuzzy mice (7 to 8 days old—5 to 6 gm) , $30/100; Large fuzzy mice / hoppers (10 to 12 days old—8 to 10 gm), $35/100 Contact Kelly Haller at 785-234-3358 or by e-mail at kelhal56@hotmail.com

For sale: 25 large, heavy-duty, open-top white plastic tubs, most with installed drains, perfect for aquatic/semi-aquatic turtles, small lizards, etc. Segments of PVC drain pipe fitted to tubs can be included with purchase. Each tub is approximately 36 inches by 66 inches, and approximately 12 inches in depth. All are gently used and in great shape. Asking $75 each, $65 each for 2 or more. Pick-up only from Kenosha, Wisconsin, area. Contact Jim or Kirsten at (262) 331-3423.

For sale: Standard 24" Neodesha reptile cages, 3 × 6" vent on top, tempered glass front. Like new condition, no burns or stains, original glass. These cages do not have the dam (horizontal molding that crosses the entire front width of the cage, used to hold back bedding material)—easier to clean without the dam. About 20 currently available, $45 each. Linda Malawy, (630) 717-9955, linda_malawy@hotmail.com.

Herp tours: **Costa Rica herping adventures**. Join a small group of fellow herpers for 7 herp-filled days. We find all types of herps, mammals, birds and insects, but our target is snakes. We average 52 per trip, and this is our 10th year doing it. If you would like to enjoy finding herps in the wild and sleep in a bed at night with air-conditioning, hot water and only unpack your suitcase once, instead of daily, then this is the place to do it. Go to our web-site http:// hiss-n-things.com and read the highlights of our trips. Read the statistics of each trip and visit the link showing photos of the 40 different species we have found along the way. E-mail at jim.kavney@gmail.com or call Jim Kavney, 305-664-2881.

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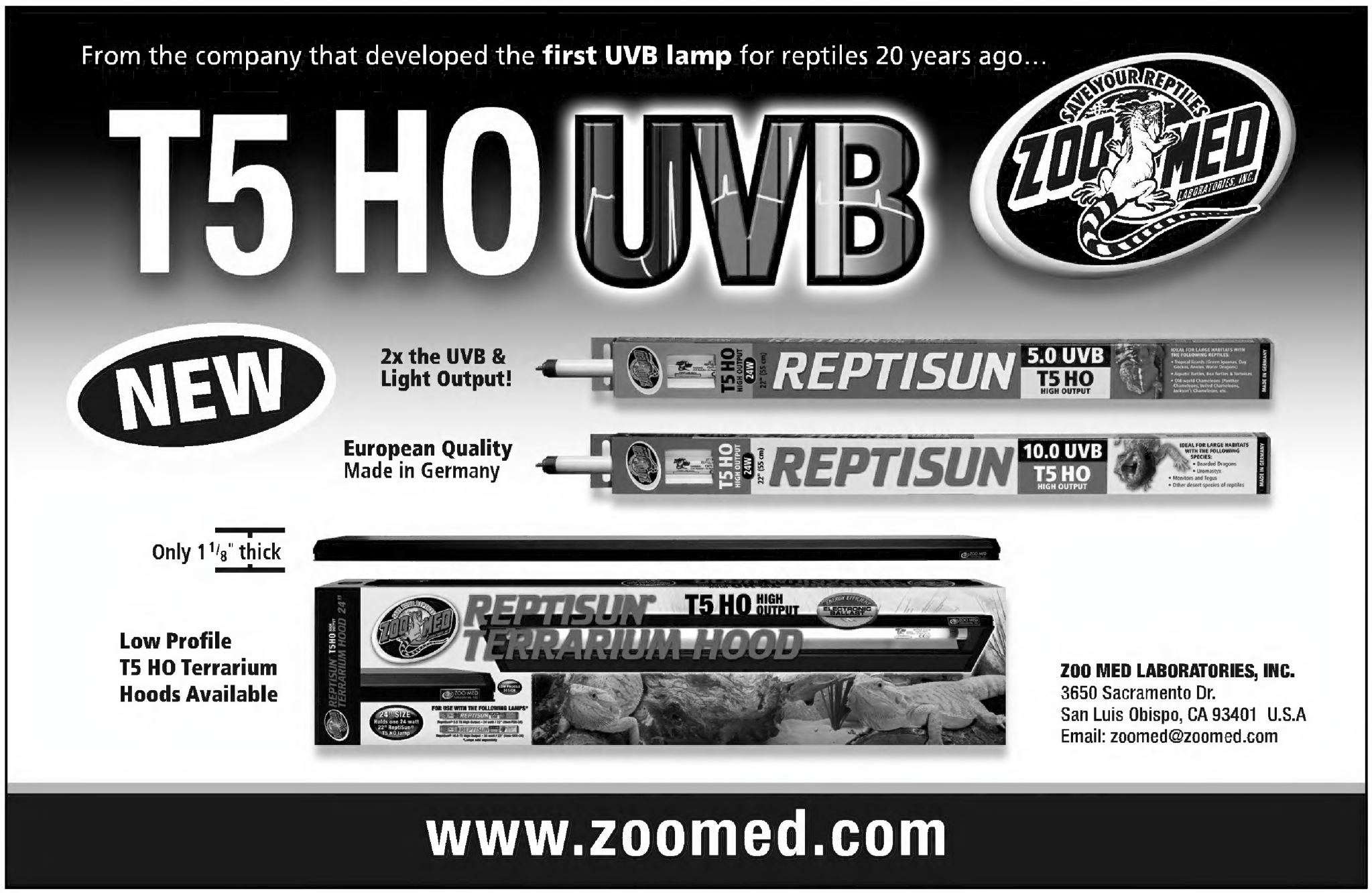
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Midwest Herpetological Conference

hosted this year by the

Chicago Herpetological Society

September 30 – October 2, 2016

The Chicago Herpetological Society is proud to host the Midwest Herpetological Conference for the fourth time. We are especially proud because this year also marks the 50th anniversary of the founding of the CHS.

Speakers will include:
Dr. Jonathan Campbell, chair of the Biology Department at the University of Texas at Arlington; **Dr. Dale Denardo**, environmental physiologist at Arizona State University; **Andrew & Sarah Gilpin**, world travelers and passionate herp photographers; **Dr. Bree Putman**, postdoctoral research fellow at UCLA; **Roger Repp**, independent researcher and columnist for the *CHS Bulletin*; **Dr. David Steen**, wildlife ecologist at Auburn University.

Registration:
The registration fee of $100 ($50 age 17 or younger, $50 full-time students) includes the Friday evening ice-breaker, the Saturday evening banquet / auction and the Sunday morning tour at Brookfield Zoo. You can register online at www.chicagoherp.org or print out a form to be mailed in. Please register early; we need to know how many are coming.

Location:
Hilton Lisle/Naperville, 3003 Corporate West Drive, Lisle IL 60532, (630) 505-0900. We have arranged for a special group rate of $111 per night. **To receive this rate please mention the group code: CCHS**. Reserve by calling 630-505-0900 or online at www.hiltonlislenaperville.com. The last day to book a room, to guarantee group rate and availability is Friday, September 9.

Banquet and auction:
The banquet will take place on Saturday evening, followed by a speaker and an auction of herp-related items (inanimate items only). Attendees are urged to donate items to be auctioned.

Agenda:
A registration table will open at 5:00 P.M. on Friday evening and will continue throughout the ice-breaker, which will begin at 6:00 P.M. The registration table will also be open Saturday morning. The speakers will commence at 8:30 A.M. on Saturday. On Sunday morning **Andy Snider** and his staff at Brookfield Zoo will provide MHS registrants with a behind-the-scenes tour of the herp collection..

- Herp societies are encouraged to bring membership info, newsletters, etc. for display.
- Table space will be provided on an as-available basis to purveyors of herp-related items such as books, shirts and cages. All we ask is that you 1) make a donation to the auction, and 2) reserve space with us in advance.
- If you have any questions, email Mike Dloogatch: mdloogatch@chicagoherp.org

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, August 31, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Ted Levin**, author of *America's Snake: The Rise and Fall of the Timber Rattlesnake*, will speak at this meeting. Ted has worked as a zoologist at the Bronx Zoo, a naturalist for the National Park Service, and a wildlife biologist for the Audubon Society. He is the author of *Blood Brook: A Naturalist's Home Ground*, *Backtracking: The Way of the Naturalist*, and *Liquid Land: A Journey through the Everglades*, which won the Burroughs Medal for exemplary nature writing in 2004. Copies of *America's Snake* will be available for sale and of course the author will be available to sign them.

No speaker has yet been confirmed for the September 28 meeting.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

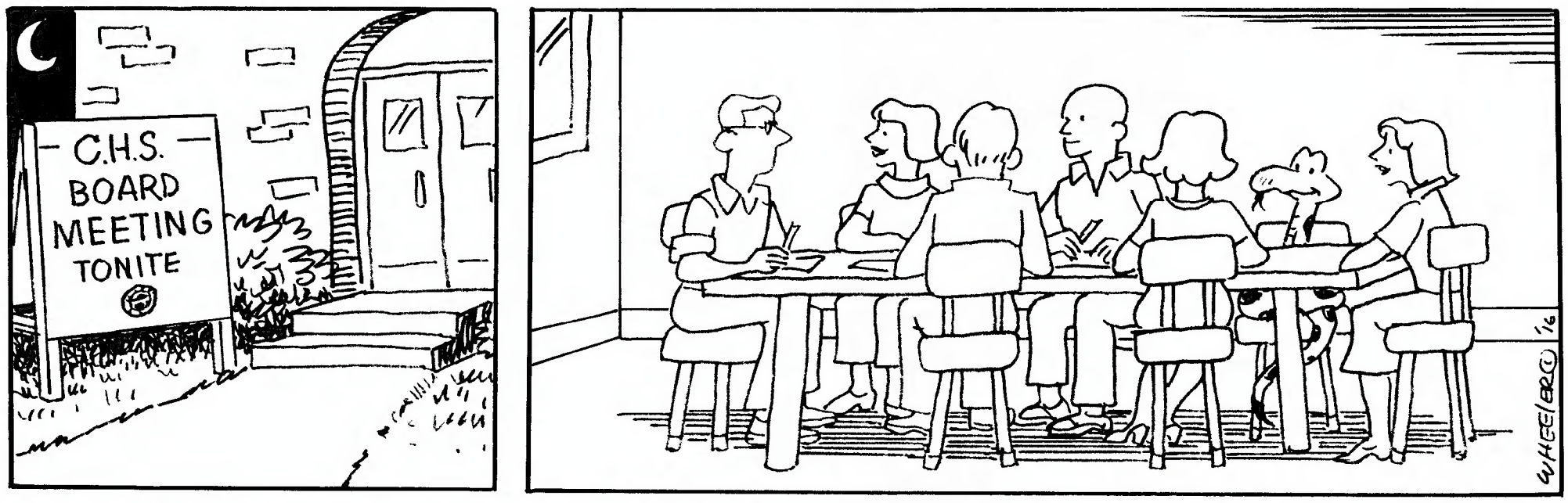
Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., Friday, September 16, 2016, at the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the group's Facebook page.

THE ADVENTURES OF SPOT



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